GASTROINTESTINAL SYSTEM

Intestinal Transit and Gastric Emptying

The phenol red labeled intestinal transit and gastric emptying model allows evaluating alterations (increase or reduction) in gastrointestinal motility without surgical intervention or use of exogenous substances. With the use of reference substances (positive controls), it is possible to verify the changes promoted by test substances in a comparative way[1].

Species: *Mus musculus* (Swiss)
Number of animals/group: 8 animals
Route of administration: upon request:
Treatment mode: upon request

Main Read-outs: Increase or delay of small intestine transit and increase or delay of gastric emptying.
Facultative read-outs: Use of agonists and antagonists, histology, immunohistochemistry, cytokine release, RT-PCR analysis of biomarker messenger RNA and others.

Validation Data

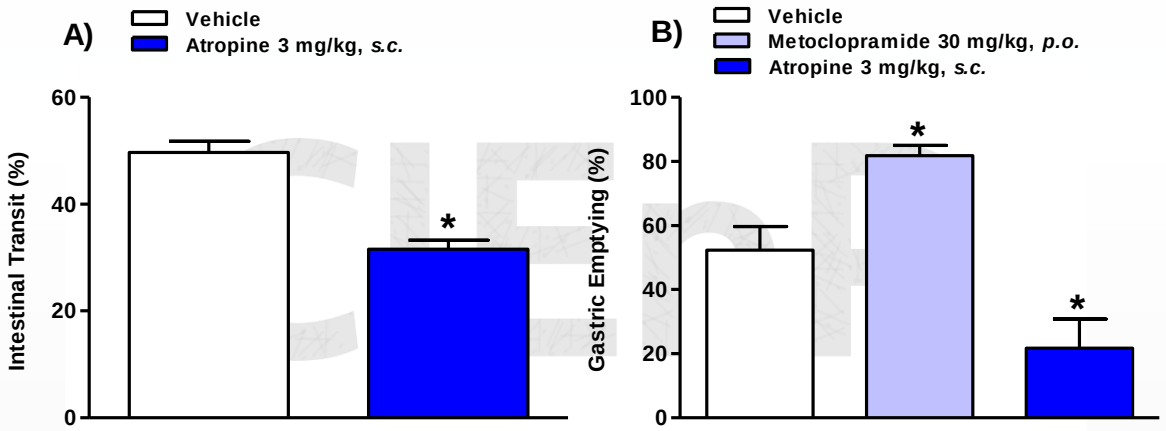

Figure: Intestinal transit (A) and gastric emptying (B) alterations. Atropine (3 mg/kg, s.c.) and metoclopramide (30mg/kg, p.o.) were used as reference items (positive control groups). Each column represents the mean ± SEM of 8 mice per group. For statistical analyses were used *t* test (A) and one-way ANOVA with Bonferroni post-hoc test (B). *P < 0.05 versus vehicle group.

To avoid bias and to allow reproducibility all in vivo experiments follow the ARRIVE guidances[2]. Mice colony from Charles River Laboratories is breed and maintained in SPF conditions. The project includes study plan and final report. Raw data are inspected by quality assurance unity. The experimental procedures was previously approved by the CIEnP Committee on the Ethical Use of Animals.

References:

[1]Suchitra AD, Dkhar SA, Shewade DG, Shashindran CH. Relative efficacy of some prokinetic drugs in morphine-induced gastrointestinal transit delay in mice. World J Gastroenterol, 9 (4): 779-783, 2003.

[2]Kilkenny C, Browne WJ, Cuthill IC, Emerson M, Altman DG. Animal research: reporting in vivo experiments: The ARRIVE guidelines. PLoS Biol. 8 (6): e1000412, 2010.